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| 10/601,741      | 06/23/2003  | Bryan T. Starbuck    | MSFTP438US          | 9003             |

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| EXAMINER |
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BAYARD, DJENANE M

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| ART UNIT | PAPER NUMBER |
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2141

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 04/05/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/601,741

Applicant(s)

STARBUCK ET AL.

Examiner

Djenane M. Bayard

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-75 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-75 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> .                                  | 6) <input type="checkbox"/> Other: _____                          |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :2/20/04, 10/12/04, 1/24/05, 3/29/05, 8/22/05, 1/20/06, 2/27/06, 3/21/06, 5/11/06, 7/31/06, 11/07/06, 11/29/06, 2/07/07, 3/19/07 .

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-75 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims language fails to interrelate essential elements of the invention as defined by the Applicant in the specification.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-75 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claims 1-12 and 70-73 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the claims language fails to specify how the features combined into useful pairs facilitate the detection of spam.

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6. Claims 13-24 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the claim fails to point out and specify applicant's invention.

7. Claims 25-32 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the claim does not point and specify applicant's invention.

8. Claims 33-41 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: claim language fails to specify how the component analyzes all features of a message header.

9. Claims 42-52 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the claims language fails to specify how the features combined into useful pairs to facilitate the detection of spam.

10. Claims 53-65 and 74-75 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps.

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See MPEP § 2172.01. The omitted steps are: the claim language fails to point out and specify applicant' invention.

11. Claims 66-69 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: claim language fails to specify how the analysis of all features of a message headers is done.

### *Claim Rejections - 35 USC § 102*

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 1-12, 42-52, 66-68, 70-75 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application No. 2003/0041126 to Buford et al.

a. As per claim 1, Buford et al teaches a spam detection system comprising: a component that identifies features relating to at least a portion of origination information of a message: and a component that combines the features into useful pairs for use in connection with training a machine learning filter to facilitate detecting spam (See page 4, paragraph [0040-0041]).

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b. As per claim 2, Buford et al wherein each pair comprises at least one of the following: at least one of a domain name and a host name in a MAIL FROM command; at least one of a domain name and a host name in a HELO COMMAND; at least one of an IP address and a subnet in a Received from header: at least one of a domain name and a host name in a Display name: at least one of a domain name and a host name in a Message From line, and at least one time zone in a last Received from header (See page 3 and page 4).

c. As per claim 3, Buford et al teaches wherein the domain name is derived from the host name (See page 3).

d. As per claim 4, Buford et al teaches wherein the subnet comprises one or more IP addresses that share a first number of bits in common (See page 4).

e. As per claim 5, Buford et al teaches wherein a useful pair is any one of a domain name and a host name from a Message From and from a HELO command (See page 3).

f. As per claim 6, Buford et al teaches wherein a useful pair is a Display name domain name and host name and a Message From domain name and host name (See page 3 and page 4).

g. As per claim 7, Buford et al teaches wherein a useful pair is any one of a domain name and a host name in a Message From and any one of a Received from IP address and subnet (See page 3 and page 4).

h. As per claim 8, Buford et al teaches wherein a useful pair is a senders alleged time zone and a Message From domain name (See page 3 and 4).

i. As per claim 9, Buford et al teaches wherein a useful pair comprises a sender's type of mailing software and any one of a domain name, host name and user name derived from one of an SMTP command and a message header (See page 3 and 4).

j. As per claim 10, Buford et al teaches wherein origination information comprises SMTP commands, the SMTP commands comprise a HELO command, a MAIL FROM command, and a DATA command (See pages 3 and 4).

k. As per claim 11, Buford et al teaches wherein the DATA command comprises a Message From line, senders alleged time zone, and sender's mailing software (See page 3 and 4).

l. As per claim 12, Buford et al teaches further comprising a component that applies one or more heuristics consistently to mail messages to obtain consistent feature pairing (See page 3 and page 4).

m. As per claim 33, Buford teaches a spam detection system comprising: a component that analyzes substantially all features of a message header in connection with training a machine learning spam filter (See page 3 and 4).



- n. As per claim 34, Buford et al teaches wherein the features of the message header comprise at least one of a presence and absence of at least one message header type, the message header types comprising X-Priority, mail software, and headers line for unsubscribing (See page 3 and 4).
- o. As per claim 35, Buford et al teaches wherein the features of the message header further comprise content associated with at least one message header type (See page 3 and 4).
- p. As per claim 36, Buford et al teaches further comprising: a component that analyzes at least a portion of a message for images and related image information; and a component that generates features relating to any one of the images and related image information (See page 3 and 4).
- q. As per claim 37, Buford et al teaches wherein the image information comprises image size, image quantity, location of image, image dimensions, and image type (See page 2).
- r. As per claim 38, Buford et al teaches wherein the image information comprises the presence of a first URL and a second URL such that the image is inside of a hyperlink (See page 3 and 4).
- s. As per claim 39, Buford et al teaches wherein the message comprises a tag pattern having

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the form of <A HREF="the first URL"><IMG SRC="the second URL"></A (See 2).

t. As per claim 40, Buford et al teaches wherein the features are used in connection with training a machine learning filter (See page 2).

u. As per claim 41, Buford et al teaches comprising a component that analyzes a message for HTML attributes and location of HTML attributes as they appear in a tag pattern (See page 2).

v. As per claim 42 -52, 68, 70-72, see claims 1-12 above.

w. As per claim 66-67, see claims 33-41 above.

14. Claims 13-28, 30-33, 53-65 and 69 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,768,991 to Hearnden.

a. As per claim 13, Hearnden teaches a spam detection system comprising: a component that analyzes a portion of a message via searching for particular character sequences that are indicative of spam, wherein the particular sequences are not restricted to whole words; and a component that generates features relating to the character sequences of any length (See col. 3-5).

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- b. As per claims 14, Hearnden teaches wherein the component generates features for each run of characters up to a maximum character run length (See col. 3-6).
- c. As per claim 15, Hearnden teaches wherein the component generates features for substantially all character sequences up to some length n (See page 3 and 4).
- d. As per claim 16, Hearnden teaches wherein the character sequences comprise at least one of letters numbers, punctuation symbols and characters of foreign languages (See col. 6).
- e. As per claim 17, Hearnden teaches wherein the particular character sequences comprise at least one of random letters, symbols, and punctuation as chaff at any one of a beginning and end of at least one of a subject line of a message and a message body (See col. 3 –5)
- f. As per claim 18, Hearnden teaches wherein random character sequences comprise character n-grams which are indicative of spam-like messages (See page 4).
- g. As per claim 19, Hearnden teaches wherein the character n-grams are located in at least one of From address, subject line, text body, html body, and attachments (See col. 3-5).
- h. As per claim 20, Hearnden teaches wherein the character n-grams are position dependent (See col. 3).

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i. As per claim 21, Hearnden teaches for use with the messages comprising at least one of foreign language text, Unicode character types, and other character types not common to English (See col. 5-6).

j. As per claim 22, Hearnden teaches wherein the foreign language text comprises substantially non-space separated words (See col. 3-5).

k. As per claim 23, Hearnden teaches wherein n-grams are used only for characters not typically separated by spaces (See col. 3-5).

l. As per claim 24, Hearnden teaches further comprising a component that extracts character sequences obfuscated by punctuation using a pattern-match technique (See col. 3-5).

m. As per claim 25, Hearnden teaches a spam detection system comprising: a component that analyzes a portion of a message via searching for instances of a string of random characters that are indicative of the message being spam (See col. 3-5).

n. As per claim 26, Hearnden teaches a component that generates features corresponding to the instances of random character strings to facilitate determining an entropy measurement for each string (See col. 3-5).

o. As per claim 27, Hearnden teaches wherein the system measures a value correlated with

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entropy (See col. 3-5).

p. As per claim 28, Hearnden teaches wherein a high value correlated with entropy is indicative of spam (See col. 3-5).

q. As per claim 30, Hearnden teaches wherein the average entropy of a character string is used (See col. 3-5).

r. As per claim 31, Hearnden teaches wherein the string of random characters is chaff (See col. 3-5).

s. As per claim 32, Hearnden teaches wherein the relative entropy compares the entropy measurement at any one of a beginning and end of at least one of a subject line and message body with the entropy measurement at a middle of at least one of the subject line and message body (See col. 3-5).

t. As per claims 53-65, 69, see claims 13-24 above.

***Conclusion***


15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Djenane M. Bayard whose telephone number is (571) 272-3878. The examiner can normally be reached on Monday- Friday 5:30 AM- 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Djenane Bayard

Patent Examiner

  
**RUPAL DHARIA**  
**SUPERVISORY PATENT EXAMINER**